UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/896,854	06/29/2001	Ian J. Deverill	11252-009	9052

7590	02/12/2004

John F. Letchford
Klehr, Harrison, Harvey, Branzburg, & Ellers
260 South Broad Street
Philadelphia, PA 19102

EXAMINER
PATEL, HARESH N

ART UNIT	PAPER NUMBER
2154	

DATE MAILED: 02/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/896,854	DEVERILL ET AL.
	Examiner	Art Unit
	Haresh Patel	2154

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 June 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date <u>5</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-12 are presented for examination.

Specification

2.   The disclosure is objected. Some of the informalities are:

> i.   The "DETAILED DESCRIPTION OF THE INVENTION" section contains significant amount of prior art contents. All the known prior art contents from the "DETAILED DESCRIPTION OF THE INVENTION" section needs to be moved into the "Description of Related Art" sub-section of the "BACKGROUND OF THE INVENTION" section.

> ii.   Unless the invention is created from scratch, applicant needs to provide all the prior arts that have led to the invention, i.e., existing patents and publications related to the claimed terms. In response to this requirement, please provide the title, citation and copy of each publication that is a source used for the description of the prior art in the disclosure. For each publication, please provide a concise explanation of that publication's contribution to the description of the prior art. Appropriate correction is required.

3.   The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "System and method to measure latency of transaction information flowing through an end-to-end network computer systems regardless of network topology".

4.   Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:
(1) if a machine or apparatus, its organization and operation;
(2) if an article, its method of making;
(3) if a chemical compound, its identity and use;
(4) if a mixture, its ingredients;
(5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

The abstract of the disclosure is objected to because it does not contain key components

of the invention and is not properly understood. The abstract should not contain terms "may be",

"preferably", etc. Key terms involved in the invention like, suggested title and the invention

overcomes existing monitoring mechanisms, are missing in the abstract. Also the abstract does

not clearly state the goal of the invention. Correction is required. See MPEP § 608.01(b).

Information Disclosure Statement

5.   An initialed and dated copy of Applicant's IDS form 1449, Paper No. 5, is attached to the

instant Office action.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6.   Claim 8 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 8 recites the term "said <u>agent measures</u> the processing time spent by said computer application <u>at each component of said computer system</u> and measures the processing time spent by said computer application between each component of said computer system". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

7.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8.   Claims 1, 2, 6 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Leymann et al. 6,633,908 (Hereinafter Leymann).

9.   As per claims 1 and 6, Leymann teaches the following:

a method of monitoring a computer application executed on a computer system, said

method comprising the steps of,

an application program interface for use in monitoring a computer application executed

on a computer system, said application program interface comprising:

without predefining events describing the potential stages of transaction to be executed

by said computer application (e.g., This solution provides application response measurement

without any modification of the application being measured, abstract), software code for

assigning a single general reference (e.g., The basic idea of the present invention is to instrument

not the application components. The present invention contemplates instrumenting the

invocation agent instead, which in turn is responsible to call the application for execution. It is

the invocation agent that makes the appropriate ARM calls to furnish the instrumentation on

behalf of the application, abstract),

to characteristic transactional information associated with a transaction to be executed by

said computer application (e.g., additional advantages are accomplished in a preferred

embodiment of the proposed invention in which the application response measurement setup

means further identifies a transaction of the application instance to the ARM to be measured,

col., 2, line 44 – col., 5, line 24),

using said single general reference to identify transaction events performed by said

computer application in executing said transaction (e.g., The present invention makes maximal

use of information available to the invocation agent. As the invocation "knows" which

application/transaction it has to invoke it is also able to share this information with the ARM.

The ARM is thus able to associate the measured data with the correct application/transaction,

col., 2, line 44 – col., 5, line 24),

measuring said transactions (e.g., latency calculation of the transactions, col., 2, line 44 –

col., 5, line 24),

an agent for marking the time at which said software code is executed (e.g., ARM API

108 runs in the address space 110 of the application 109. Its only function is to capture the key

data and a timestamp, put this data on a queue, and then return control to the application 109.

API Subagent 107 runs asynchronously as its own process. This subagent manages the data

(calculates response times, checks thresholds, col., 2, line 44 – col., 5, line 24) and

tagging that time with said characteristic transactional information as said characteristic

transactional information is being currently processed by the computer application (e.g., Through

these two distinctive means the invocation agent is enabled to precisely control the "time

window", in which the ARM will associate the response measurement data to the application.

Such a feature allows the invocation agent to perform extra processing, which will not enter the

response measurement data of the application. Thus it is guaranteed that the measured data are

precise and relate to the application execution and not to the processing of the invocation agent,

col., 2, line 44 – col., 5, line 24).

10.   As per claims 2 and 7, Leymann teaches the following:

said software code is further operable to assign a component-specific reference to said

single general reference at each component of said computer system (e.g., Tivoli Distributed

Monitoring 101 provides this function at a local level or across a network or enterprise, offering

sophisticated rule-based analysis of different applications, systems, databases, and networks. To

execute the responses, Tivoli Enterprise Console 102 invokes tasks across many different

platforms, protected by a strong security, col., 2, line 44 – col., 5, line 24), said component-

specific reference representing said characteristic transactional information as said computer

application is executed on said computer system (e.g., the identifier is unique for all transactions

across all applications within one system, col., 7, line51 – col., 10, line 36).

Claim Rejections - 35 USC § 103

11.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

12.   Claims 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leymann

in view of Maccabee et. al. 6,108,700 (Hereafter Maccabee).

13.   As per claims 3 and 8, Leymann the following:

an agent to collect the processing time spent by said computer application for the

transaction (e.g., an invocation agent for invoking an application instance. The invocation agent

comprises instrumentation means interacting with an application response measurement system

(ARM) to provide response measurement on behalf of the application instance by the ARM, col.,

2, line 44 – col., 5, line 24).

However, Leymann does not specifically mention about processing time spent at each component of the computer system.

Maccabee teaches the following:

said agent measures the processing time spent by said computer application at each component of said computer system and measures the processing time spent by said computer application between each component of said computer system (e.g., The present invention has features which enable the derivation of information necessary for correlating and collating select measurement events into transactions that describe the behavior of end-to-end business transactions as it applies to availability, performance (response time), capacity, and utilization metrics. An example of the application to availability is that transactions can be formed even if not all the events are available. An example of the application to system capacity is that since the duration of a single event can be measured, the number of events per unit time can also be calculated. An example of the application to system utilization is that once the number of transactions per unit time are known, this can be compared to a maximum number of transactions per unit time, col., 3, line 21 – col., 6, line 51).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Leymann with the teachings of Maccabee in order to facilitate calculation of processing time spent by each transaction at each component of the system. The software at the monitoring system would collect the transaction related information from an agent of each of the managed system. The collected transaction related information would be used to calculate the processing time spent by an application of each management system and the time spent between two managed systems that handled the transaction.

14.   Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leymann in view

of Maccabee.

15.   As per claim 9, Leymann the following:

a computer system performance monitoring system comprising:

an application program interface for monitoring a computer application executed on a

computer system, said application program interface comprising (e.g., FIG. 2 depicts this

teaching of the invention. The managed system 111 corresponds to that of FIG. 1. In

accordance with the present invention, an invocation agent 202 invokes an application instance

201. The invocation agent 202 comprises the instrumentation for application response

measurement. Through this instrumentation the invocation agent 202 interacts with an

application response measurement system 203, 204 comprising an ARM API 203 and API

Subagent 204 to provide response measurement on behalf of the application instance 201 by the

ARM, col., 8, lines 5 – 50),

without predefining events describing the potential- stages of a transaction to be executed

by said computer application (e.g., This solution provides application response measurement

without any modification of the application being measured, abstract), software code for

assigning a single general reference to characteristic transactional information associated with a

transaction to be executed by said computer application (e.g., The basic idea of the present

invention is to instrument not the application components. The present invention contemplates

instrumenting the invocation agent instead, which in turn is responsible to call the application for

execution. It is the invocation agent that makes the appropriate ARM calls to furnish the

instrumentation on behalf of the application, abstract),

an agent for marking the time at which said software code is executed and tagging that

time with said characteristic transactional information as said characteristic transactional

information is being currently processed by the computer application (e.g., ARM API 108 runs

in the address space 110 of the application 109. Its only function is to capture the key data and a

timestamp, put this data on a queue, and then return control to the application 109. API

Subagent 107 runs asynchronously as its own process. This subagent manages the data

(calculates response times, checks thresholds, col., 2, line 44 – col., 5, line 24),

a database for storing said raw computer application timing data, an aggregator (e.g.,

Tivoli Distributed Monitoring 101 provides this function at a local level or across a network or

enterprise, offering sophisticated rule-based analysis of different applications, systems,

databases, and networks, col., 2, line 44 – col., 5, line 24)

However, Leymann does not specifically mention about a database for storing latency

data and an aggregator to calculate latency data.

Maccabee teaches the following:

an aggregator for calculating computer application latency data from raw timing data

produced by said agent (e.g., Both aggregate and detail reporting facilities provide overall

performance and availability information as well as exceptions and/or detail transactions

including the decomposition of overall availability and performance metrics into smaller

measurements representing the contribution made by select transaction components, abstract),

a database for storing said raw computer application timing data and said latency data

(e.g., The Transaction Store is a repository for transactions and maintains them in their original

state as well as storing aggregate records built from transactions, col., 3, line 21 – col., 6, line

51).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teachings of Leymann with the teachings of Maccabee in order to

facilitate calculation of processing time spent by each transaction at each component of the

system. The software at the monitoring system would collect the transaction related information

from an agent of each of the managed system and store the collected information into the

database. The collected transaction related information would be used to calculate the

processing time spent by an application of each management system and the time spent between

two managed systems that handled the transaction.

16.   Claims 4, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Leymann and Maccabee in view of "Official Notice".

17.   As per claims 4, 10 and 11, Maccabee the following:

a GUI to display to monitor latency data from the database (e.g., Upon a specific or

periodic request a from GUI (565), a report or continuous graphical monitoring can be produced

for the Information Consumer, col., 5, line 28 – col., 8, line 45).

However, Leymann and Maccabee do not specifically mention about the details of

charting the latency of said computer system over a selected time frame. "Official Notice" is

taken that both the concept and advantages of providing a chart with the latency data is well

known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to include plotting a chart of the latency data of the computer system with the

teachings of Leymann and Maccabee in order to facilitate a user to monitor the latency data for

the specific interval of time. User will have the flexibility to monitor the latency of the

transactions for the desired period of time for which the transaction related information has been

captured by the system.

18.   Claims 5 and 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Leymann

and Maccabee in view of "Official Notice".

19.   As per claims 5 and 12, Leymann the following:

calculation of latency of transaction information (e.g., The monitoring of the status of an

application takes place during runtime. Primarily it is used for performance measurement of key

application transactions. Exploitation of this technology results in advantages in terms of

usability and comprehensibility when compared with the corresponding monitoring capabilities

available today for networks, database systems etc. for example from reports describing network

latency, response times, I/Os etc, col., 2, line 44 – col., 5, line 24).

Maccabee also teaches the following:

an aggregator to calculate latency of transaction information (e.g., The present invention

has features which enable the derivation of information necessary for correlating and collating

select measurement events into transactions that describe the behavior of end-to-end business

transactions as it applies to availability, performance (response time), capacity, and utilization

metrics. An example of the application to availability is that transactions can be formed even if

not all the events are available. An example of the application to system capacity is that since

the duration of a single event can be measured, the number of events per unit time can also be

calculated. An example of the application to system utilization is that once the number of

transactions per unit time are known, this can be compared to a maximum number of transactions

per unit time, col., 3, line 21 – col., 6, line 51).

However, Leymann and Maccabee do not specifically mention about the details of what

formula is used to calculate the latency of transaction information passed between components of

said computer system. "Official Notice" is taken that both the concept and advantages of

providing a below mentioned formula to calculate the latency of transaction information is well

known and expected in the art.

"T'1 (Ucy) - T'1 (Vcx)) + (T'2(Ucy) - T'2 (Vcx)) + ... + (T' m-1 (Ucy) - T'm-1 (Vcx)) + (

T' m (Ucy) - T' m (Vcx)) / m where: m = an unspecified number of transaction events, T1, T21 ...

I Tm- I r Tm; T'1,   T'2, ..., T'm-1 T'm = transactional information pertaining to transaction

events, TI, T2, ... r Tm-1, T ; Ucy =   start time for a transaction event at one component of said

computer system; and Vcx = end time for a transaction event at another component of said

computer system".

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to include a formula to calculate the latency of transaction information with the

teachings of Leymann and Maccabee in order to facilitate a user to monitor the latency data for

the specific interval of time. The software of the monitor system would use the latency

calculating formula and provide flexibility to the user to monitor the latency of the transactions

for the desired period of time for which the transaction related information has been captured by

the system.

Conclusion

20.   Claim 9 do not represent applicant's invention, as it does not contain a collector, a

formula to measure latency, a network having multiple computers (figure 8), etc. Also claims 1

and 6 do not represent applicant's invention, as they are missing the same contents and are too

vague. Examiner has found numerous arts related to the disclosed subject matter, which

overcome the claimed subject matter.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Haresh Patel whose telephone number is (703) 605-5234. The

examiner can normally be reached on Monday, Tuesday, Thursday and Friday from 10:00 am to

8:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Follansbee, can be reached at (703) 305-8498.

The appropriate fax phone number for the organization where this application or

proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is (703) 305-3900.

Haresh Patel

January 29, 2004

JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100